



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,032	03/26/2004	Alexander Levin	42P18580	9556
8791	7590	05/26/2005		
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			EXAMINER TRAN, ANH Q	
			ART UNIT 2819	PAPER NUMBER

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,032

Applicant(s)

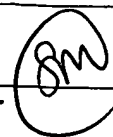
LEVIN, ALEXANDER

Examiner

Anh Q. Tran

Art Unit

2819



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-16 and 19-30 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-16, 19-20, 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Bridgewater, Jr. (6,222,388).

Bridgewater shows:

1. A predriver circuit comprising:
a pull-up circuit (530 & 532, Fig. 10) having at least one pull-up device of a first device type; and
a pull-down circuit (534 & 536) having at least one pull-down device of the first device type, the pull-up circuit and the pull-down circuit to charge an output node and a complement output node in opposite directions to generate a differential predriver signal pair.
2. The predriver circuit of claim 1, wherein the pull-up device is cross-coupled to the pull-down device (col. 11, lines 35-37).
3. The predriver circuit of claim 1, wherein the pull-up device and the pull-down device comprise NMOS devices (col. 11, lines 35-37).
4. The predriver circuit of claim 1, wherein the pull-up circuit comprises:

a first pull-up device (532) having a gate coupled to a data input signal (502), a drain coupled to a power supply and a source coupled to the output node (508); and

a second pull-up device (530) having a gate coupled to a complement input signal (503), a drain coupled to the power supply and a source coupled to the complement output node (506).

5. The predriver circuit of claim 1, wherein the pull-down circuit comprises:

a first pull-down device (536) having a gate coupled to a complement input signal, a drain coupled to the output node and a source coupled to ground; and a second pull-down device (534) having a gate coupled to a data input signal, a drain coupled to the complement output node and a source coupled to ground.

6. The predriver circuit of claim 1, wherein the pull-down circuit further comprises:

a first device (586, 588) coupled between the output node and ground; and a second device (598, 599) coupled between the complement output node and ground.

9. The predriver circuit of claim 2, further comprising:

a first pull-up device (532) cross-coupled to a first pull-down device (534) to receive a data input signal (502) and to charge the output node (506) and the complement (508) output node in opposite directions; and

a second pull-up device (530) cross-coupled to a second pull-down device (536) to receive a complement data input signal and to charge the output node and the complement output node in opposite directions to generate the differential predriver signal pair.

10. The predriver circuit of claim 1, wherein the first and second pull-up devices comprise NMOS devices and the first and second pull-down devices comprise NMOS devices (col. 11, lines 35-37).

The limitations of claims 11-16, 19-20, and 26-30 are rejected as above.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Srikanth et al (6,617,891).

Srikanth shows:

21. An electronic system (Fig. 1) comprising:

a printed wiring board (165, col. 2, lines 58-50) on which a serial bus is formed, an integrated circuit (IC) chip package (105) being operatively installed on the board to communicate using the serial bus, the package having an IC chip that includes a logic function section (120) and an I/O section (125) as an interface between the logic function section and the serial bus, the I/O section having an output driver in which a pre-driver includes a pull-up circuit (365, Fig. 3) having at least one pull-up device (328) of a first device type, and a pull-down circuit (310) having at least one pull-down device (338) of the first device type, the pull-up circuit and the pull-down circuit to charge an output node (PULL UP) and a complement output (PULL DOWN) node in opposite

directions to generate a differential predriver signal pair to open/close a pair of line driver switches (342, 344) to generate a differential output driver signal pair.

The limitations of claims 22-25 are rejected to column 1, lines 4-15.

Allowable Subject Matter

4. Claims 7-8, 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Khoury et al. (5,959,492) discloses a differential driver including a differential predriver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Q. Tran whose telephone number is 571-272-1813. The examiner can normally be reached on M-TH (7:00-5:30) Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANH Q. TRAN
PRIMARY EXAMINER



5/23/05